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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/731,904	12/08/2000	Koichiro Kishima	SON-2029	1187

23353 7590 06/13/2003

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EXAMINER

FERGUSON, LAWRENCE D

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 06/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/731,904

Applicant(s)

KISHIMA ET AL.

Examiner

Lawrence D Ferguson

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,5,10-14,17,18 and 35-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,5,10-14,17,18,35 and 38-42 is/are rejected.
- 7) ☒ Claim(s) 36 and 37 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. This action is in response to the amendment mailed April 3, 2003.  
Claims 2-4, 6-9 and 15-16 were cancelled, claims 1, 5, 10, 14, 36 and 38 were amended and claim 42 was added rendering claims 1, 5, 10-14, 17-18 and 35-42 pending.

### ***Claim Rejections – 35 USC § 103(a)***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 10-14, 17-18, 35 and 38-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawakubo et al. (U.S. 5,972,459) in view of Kasami et al (U.S. 6,312,780) further in view of Yamada et al (U.S. 5,635,267).
4. Kawakubo discloses an optical recording medium with a reflective film, a phase-change recording layer and a light transmissive layer (abstract and column 2, lines 18-28) along with forming the film layer by sputtering (column 3, lines 1-2) and the recording medium is for recording and/or reproducing (column 3, lines 65-66). The reference discloses the structure is irradiated with laser light (column 7, lines 18-19) with the recording medium comprising a convex portion, concave portion and flat portion

(column 7, lines 25-29). Kawakubo discloses a dielectric layer formed on the substrate (column 8, line 43-46) with the film comprised of inorganic material such as ZnS and SiO<sub>2</sub> (column 8, lines 48-52). The optical recording medium having protrusions eliminated that damage an optical system disposed in the proximity of and in opposition to the surface of the light recording medium and performs the irradiation of light is a product by process. Additionally, the formation temperature and state of magnetization changed by the irradiation of light are product by process claimed limitation as well. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966. Kawakubo does not disclose the film thickness. Thickness is an optimizable feature that is result effective. It would have been obvious to one of ordinary skill in the art to optimize the components because discovering an optimum or workable range is of routine skill in the art. Kawakubo does not disclose the light transmission film consisting of inorganic flattenable material having a thickness of 400nm or less.

Kasami teaches an optical recording medium with phase change capabilities (column 5, lines 35-61) having a light transmission layer consisting of inorganic material at a thickness of 0.3 mm (column 11, lines 22-53). With regard to 'flattenable' claim language, this limitation constitutes a 'capable of' limitation and that such a recitation

that a component is 'capable of' a function is not a positive limitation, but only requires the ability to perform. In this instance, the Applicant is attempting to claim the future physical property of flattening the inorganic material. Kawakubo and Kasami are analogous art because they are from the same field of light transmitting layers. It would have been obvious to one of ordinary skill in the art to include inorganic material resulting in a specific thickness of the light transmitting layer of Kawakubo because Kasami teaches the inorganic material helps maintain the integrity of the layer by preventing scratching (column 11, lines 22-27). Kawakubo does not disclose spin-coating or changing from an amorphous state to a crystalline state.

Yamada teaches a recording medium with a recording layer having a concavo-convex surface (abstract) where a laser beam irradiates a recording medium (column 5, lines 58-60). Yamada teaches a polishing process of the recording medium produced by spin coating (column 10, lines 60-65) and has reversible phase-changing between the amorphous and crystalline states (column 12, lines 14-18). Kawakubo, Kasami and Yamada are analogous art because they are from the same field of information multilayered light emitting materials. It would have been obvious to one of ordinary skill in the art to include the polishing process and spin-coating features in the recording medium of Kawakubo because Yamada teaches the polishing helps smooth out the surface from unevenness and the spin coating helps protect the information recording medium from environmental hazards. It would have also been obvious to one ordinary skill in the art to include the recording layer phase change material changing from an amorphous state to a crystalline state because Yamada teaches this is conventional

within the art. Neither reference explicitly teaches hardness. Because the references have the same components with the same function as the claimed invention, it would have been expected for the layer to have a hardness, as claimed.

***Claim Rejections – 35 USC § 103(a)***

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being obvious over Kawakubo et al. (U.S. 5,972,459) in view of Kasami et al (U.S. 6,312,780) in view of Yamada et al (U.S. 5,635,267) further in view of Katsuragawa (U.S. 6,187,431).

6. Kawakubo, Kasami and Yamada are relied upon for claims 1, 10-14, 17-18, 35 and 38-42. Kawakubo does not disclose the substrate made of polyether sulfone (PES)

Katsuragawa teaches a recording medium comprising a substrate including polyether sulfone (column 2, line 45 through column 3, line 5). All of the references are analogous art because they are from the same field of recording media. It would have been obvious to one of ordinary skill in the art to include PES in the substrate of Kawakubo because Katsuragawa teaches the conventionality of recording medium substrates consisting of PES (column 2, line 45 through column 3, line 5).

7. Claims 36 and 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

8. Applicant's arguments of rejection under 35 USC 103(a) as being unpatentable over Kawakubo et al. (U.S. 5,972,459) in view of Araki et al (U.S. 6,166,856) further in view of Yamada et al (U.S. 5,635,267) and Kawakubo et al. (U.S. 5,972,459) in view of Araki et al (U.S. 6,166,856) in view of Yamada et al (U.S. 5,635,267) further in view of Sekiya et al (U.S. 5,614,287) have been considered moot based on new grounds of rejection. Applicant argues 'the optical recording medium having protrusions eliminated that damage an optical system disposed in the proximity of and in opposition to the surface of the light recording medium and performs the irradiation of light' are not process steps but are physical characteristics of the materials. Examiner respectfully disagrees. Physical characteristics are distinguishing traits or features of a material (i.e. gloss, haze, etc.) Having protrusions eliminated that damage an optical system is not a physical characteristic of a recording medium, but is a step in altering the recording medium and therefore maintained as a product by process claim limitation. Applicant argues Yamada does not disclose a light transmissive layer made of inorganic material. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

The examiner has admitted that Yamada does not have a light transmissive layer. The Examiner has already noted that Yamada is only used to show that reverse phase changing between amorphous and crystalline state is conventional in the art.

***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Ferguson whose telephone number is (703) 305-9978. The examiner can normally be reached on Monday through Friday 8:30 AM – 4:30PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. Please allow the examiner twenty-four hours to return your call.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2351.

Lawrence D. Ferguson  
Examiner  
Art Unit 1774

CYNTHIA H. KELLY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700

